

5 communication with a base station in an adjacent cellular area, wherein said interface system
6 includes an ATM radio interface card (ARIC) and time division multiple access (TDMA)
7 ARICs are provided for communication from said base station to said NIUs and frequency
8 division multiple access (FDMA) ARICs are provided for communication from said NIUs to
9 said base station; and further comprising a controller and wherein the time division multiple
10 access (TDMA) ARICs and the frequency division multiple access (FDMA) ARICs are
11 operably connected to the controller such that communication from said base station to said
12 NIUs is handled by the time division multiple access (TDMA) ARICs and communication
13 from said NIUs to said base station is handled by the frequency division multiple access
14 (FDMA) ARICs.

1 7. (twice amended) An interface system as defined in claim 6 wherein frequency
2 division multiple access (FDMA) ARICs are [provided] are operably connected to the
3 controller for bi-directional intercell radio communication.

1 9. (twice amended) A system for providing broadband wireless communication over
2 a large geographic area subdivided into a plurality of overlapping cellular areas comprising:
3 a base station and one or more customer sites within each cellular area; and
4 asynchronous transfer mode (ATM) radio interface cards (ARICs) at each base station
5 for bi-directional communication with network interface units (NIUs) at the customer sites in
6 said cellular area and for point to point bi-directional intercell radio communication with
7 ARICs in other base stations;

8 said system having at least one time division multiple access (TDMA) ARIC for point
9 to multipoint communication from said base station to said NIUs and at least one frequency
10 division multiple access (FDMA) ARIC for point to point communication from said NIUs to
11 said base station; and further comprising a controller and wherein the time division multiple
12 access (TDMA) ARIC and the frequency division multiple access (FDMA) ARIC are
13 operably connected to the controller such that communication from said base station to at
14 least one of said NIUs is handled by the time division multiple access (TDMA) ARIC and
15 communication from the at least one of said NIUs to said base station is handled by the
16 frequency division multiple access (FDMA) ARIC.

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1 10. (twice amended) A system as defined in Claim 9 having a frequency division
2 multiple access (FDMA) ARIC for bi-directional intercell radio communication between base
3 station operably connected to the controller.

1 11. (twice amended) A system as defined in Claim 9 wherein one of said base
2 stations is operably connected in communication with a network manager for controlling said
3 system.

1 12. (amended) A system as defined in Claim 9 wherein the system accomodates
2 additional ARICs [may be implemented as required in order] to increase capacity with each
3 cellular area and to provide access to additional NIUs within each cellular area.

1 13. (amended) A system as defined in Claim 10 wherein the system accomodates
2 additional ARICs [may be implemented] to communicate with base stations in additional,
3 adjacent cellular areas.

1 15. (twice amended) A method of providing scaleable, broadband wireless access to
2 a large geographic area subdivided into a plurality of cellular areas comprising:
3 providing a base station within each cellular area; and
4 providing ATM radio interface cards (ARICs) at each base station for communicating
5 with network interface units (NIUs) within said cellular area and for providing a radio access
6 link for bi-directional intercell communication with ARICs and base stations in other cellular
7 areas, wherein time division multiple access (TDMA) ARICs and frequency division multiple
8 access (FDMA) ARICs are provided for bi-directional communication between said base
9 station and NIUs within a cellular area; and further comprising a controller and wherein the
10 time division multiple access (TDMA) ARICs and the frequency division multiple access
11 (FDMA) ARICs are operably connected to the controller such that communication from said
12 base station to said NIUs is handled by the time division multiple access (TDMA) ARICs and
13 communication from said NIUs to said base station is handled by the frequency division
14 multiple access (FDMA) ARICs.

1 16. (amended) A method as defined in Claim 15 wherein FDMA ARICs are
2 provided in said base stations for bi-directional intercell radio communications operably